Samuel Valiquette

Institution: Department of Mathematics and Statistics, McGill University, Montréal, H3A 0B9

Position: Postdoctoral Fellow in Statistics

E-mail: samuel.valiquette@mcgill.ca ✽ *Website:* s-valiquette.github.io

Education

Joint PhD degree in Mathematics/Biostatistics   *Université de Montpellier/Sherbrooke*

PhD's degree program   *August 2020 - August 2024*

<u>Thesis title</u>: Sur les données de comptage dans le cadre des valeurs extrêmes et la modélisation multivariée

<u>Supervisors</u>: Marchand, É., Mortier, F., Peyhardi, J. & Toulemonde, G.

Joint Master degree in Biostatistics   *Université de Montpellier/Sherbrooke*

Master's degree program   *August 2018 - August 2020*

<u>Thesis title</u>: Théorie des valeurs extrêmes dans le cadre des mélanges de Poisson

<u>Supervisors</u>: Marchand, É., Mortier, F., Peyhardi, J. & Toulemonde, G.

Bachelor's degree in Mathematics/Statistics   *Université de Montréal*

Bachelor's degree program   *August 2015 - August 2018*

Work experience

Postdoctoral Fellow in Statistics   *Montréal, Canada*

McGill University   *Since August 2024*

Supervisors : Christian Genest & Johanna Nešlehová

BRP   *Sherbrooke, Canada*

Intern (Master's student)   *January 2019 - May 2019*

Project: Time series analysis of recreational vehicles

Employment and Social Development Canada   *Gatineau, Canada*

Intern (Bachelor's student)   *May 2018 - August 2018*

Project: Statistical analysis of service quality

Division: Analytical research

Statistics Canada   *Ottawa, Canada*

Intern (Bachelor's student)   *May 2017 - August 2017*

Project: Master File for graduate students in Canada

Division: Household Survey Methods

Academic Work Experience

Supervisor   *Since January 2025*

- Ziyu Zhou: Multivariate Modeling via Tree Pólya Splitting (MATH 410, Winter 2025)

Teaching   *Since August 2023*

- MATH 262: Intermediate Calculus (Fall 25)
- STT 760: Mathematics for Artificial Intelligence (Fall 23, Fall 24)

Teaching Assistant/Corrector   *Since August 2018*

- CQP 201: Linear Algebra and Matrix calculation (Fall 18)
- MAT 153: Introduction to Linear Algebra (Fall 20)
- MAT 356: Analytical Geometry (Winter 19)
- STT 289: Probability (Fall 21)
- STT 438: Computational Statistic (Fall 22, Fall 23)
- STT 563: Linear Statistical Model (Winter 21, Winter 22)
- STT 760: Mathematics for Artificial Intelligence (Fall 21, Fall 22)

Service and leadership

- Co-organizer, alongside Mehdi Dagboug, of the McGill Statistics Seminar for the 2024–2026 academic years.
- Reviewer for articles in the Journal of Multivariate Analysis.
- Judge for the oral and poster presentation sessions at the Thirteenth annual Canadian Statistics Student Conference (CSSC), May 24, 2025.
- Executive member (Vice-president) of the undergraduate student union at the Département de mathématiques et de statistique of the Université de Montréal for the academic year 2017-2018.

Articles

A class of multivariate Bernoulli distributions generated by an aggregation-tree model   *In preparation*
                                                                                                July 2025

Tree Pólya Splitting distributions for multivariate count data   *Journal of Multivariate Analysis*
https://www.sciencedirect.com/science/article/pii/S0047259X25001022   *January, 2026*

Asymptotic tail properties of Poisson mixture distributions   *Stat*
https://doi.org/10.1002/sta4.622   *September 26, 2023*

Talks & Workshops

YES - Dependence Modeling   *Eindhoven, Netherlands*
Eurandom (Participant)   *June 30, 2025*

Asymptotic Tail Properties of Poisson Mixture Distributions   *Saskatoon, Canada*
2025 SSC Annual Meeting   *May 26, 2025*

Modélisation multivariée par agrégation hiérarchique   *Sherbrooke, Canada*
Séminaires de statistique (Invited)   *March 6, 2025*

Modèle multivarié discret Tree Pólya Splitting   *Montréal, Canada*
Séminaires de STATQAM (Invited)   *January 30, 2025*

Tree Pólya Splitting distributions for multivariate count data   *Montréal, Canada*
McGill Statistics Seminars (Invited)   *January 17, 2025*

Comportement extrême des mélanges Poisson *Québec, Canada*
Séminaire du CIMMUL (Invited) *September 27, 2024*

Modèle multivarié discret Tree Pólya Splitting *Sherbrooke, Canada*
Rencontres scientifiques Montpellier Sherbrooke (Invited) *June 20, 2024*

Multivariate discrete Tree Pólya Splitting distributions *Saint John's, Canada*
2024 SSC Annual Meeting *June 4, 2024*

Comportement asymptotique des mélanges Poisson *Sherbrooke, Canada*
Semaine des études supérieures - Université de Sherbrooke (Poster) *January 24, 2024*

Asymptotic tail properties of Poisson mixture distributions *Toronto, Canada*
2023 Joint Statistical Meetings *August 10, 2023*

Extreme value theory for the choice of mixture Poisson models *Nice, France*
52èmes Journées de Statistique de la Société Française de Statistique (Virtual) *June 10, 2021*

Le Bon, le Standard et le Bayésien *Sherbrooke, Canada*
Club Mathématique de Sherbrooke *January 24, 2019*

Le Bon, le Standard et l'Exact *Montréal, Canada*
Séminaires Universitaire en Mathématiques à Montréal *January 12, 2019*

Science Popularization

Presentation of graduate studies *Saint-Amable, Canada*
François-Williams highschool *April 10, 2024*

A panel of PhD students from various fields presented their perspectives on university life and the benefits of pursuing advanced degrees to high school students. My aim was to make the work of a statistician and the value of higher education in mathematics accessible and engaging.

Scholarships & Grants

ISM Travel Grant *Summer 2024*
Institut des Sciences Mathématiques *500$*

ISM Graduate Scholarships 2023-2024 *Fall 2023*
Institut des Sciences Mathématiques *5000$*

Valorisation des travaux des étudiantes et des étudiants 2022-2023 *Fall 2023*
Université de Sherbrooke - Faculty of Science *1000$*

ISM Graduate Scholarships 2019-2020 *Fall 2019*
Institut des Sciences Mathématiques *4000$*

Bourse Frontenac 2019-2020 *Fall 2019*
Fonds de recherche du Québec - Nature et technologies *6000$*

Technical skills

Programming Languages/Tools   C, C++, Javascript, R, Python, LaTeX

Language proficiencies

French   Native language
English   Fluent

Research Interests

Multivariate models
Copulas
Extreme Value Theory
Hierarchical Models
Discrete Data
Poisson mixtures
Bayesian Inference